



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,424	07/05/2005	Hideo Morimoto	077700/061001	6232
22511	7590	02/09/2006	EXAMINER	
OSHA LIANG L.L.P. 1221 MCKINNEY STREET SUITE 2800 HOUSTON, TX 77010				BENSON, WALTER
		ART UNIT		PAPER NUMBER
		2858		

DATE MAILED: 02/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

2/

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/541,424	MORIMOTO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Walter Benson	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 17 January 2006.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-4 is/are rejected.
- 7) Claim(s) 5-17 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>7/05/05</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____ .

**DETAILED ACTION**

1. Claims 1-17 are presented for examination.

***Specification***

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
3. Claims 5-17 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and cannot depend from any other multiple depended claims. See MPEP § 608.01(n). Accordingly, the claims 5-17 have not been further treated on the merits.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2858

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morimoto (US Patent No, 6,989, 677 and Morimoto hereinafter in view of Cox (US Patent No. 4,719,538.

6. As to claims 1 and 3, Morimoto discloses a capacitance sensor, in that the sensor comprises:

conductive member (col. 2, lines 49-50);

capacitance element electrode cooperating with capacitance the conductive member to form a first element (col. 2, lines 50-53);

a reference electrode electrically connected to the conductive member and kept at ground potential or another fixed potential (col. 2, lines 53-56)

the sensor can detect an externally applied force on the basis of detection of a change the capacitance value of the first capacitance element by utilizing signal input to the capacitance element electrode (col. 3, lines 12-23);

the sensor comprises two capacitance element electrodes in a pair (col. 3, lines 27-31);

output signals corresponding to signals input to a circuit including one of the capacitance element electrodes and a circuit including the other of the capacitance element electrodes [col. 5, lines 5-13] respectively,

Morimoto did not expressly disclose:

are detected by a signal processing circuit having hysteretic characteristics [claims 1, 3].

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Morimoto, as evidenced by Cox.

Cox discloses a force responsive capacitive sensor having:

are detected by a signal processing circuit having hysteretic characteristics [claims 1, 3] (col. 7, lines 63-68 and col. 8, lines 1-2).

Given the teaching of Cox, a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Morimoto by employing the well known or conventional features of signal processing of capacitive sensor outputs, such as disclosed by Cox in order to efficiently correct for thermal drift and mechanical hysteresis of the sensor provided by Morimoto.

further as to claim 3, Morimoto discloses, a substrate that provides an XY plane of an XYZ three-dimensional coordinate system defined (col. 3, lines 1-4);

a detective member being opposed to the substrate (col. 3, lines 4-5);  
conductive member disposed between the substrate and the detective member so as to be Z-axially displaceable the detective member; accordance with Z-axial displacement of the detective member (col. 3, lines 5-8).

7. As to claim 2, Morimoto discloses Morimoto discloses a capacitance sensor, in that the sensor comprises:

a second capacitance element formed between the reference electrode and the conductive member (col. 3, lines 53-60).

8. As to claim 4, Morimoto discloses Morimoto discloses a capacitance sensor, in that the sensor comprises:

That the capacitance element electrode includes a pair of first capacitance element electrodes disposed symmetrically with respect an X axis, and a third capacitance element electrode disposed near origin (col. 6, lines 30-40).

***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter Benson whose telephone number is (571) 272-2227. The examiner can normally be reached on Mon to Fri 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Walter Benson  
Primary Examiner

February 3, 2006